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ABSTRACT

Questions and issues about research on postsecondary education currently being considered at the National Institute of Education (NIE), NIE's major interests from previous years, and the evolving organization of NIE as it pertains to postsecondary research and development are examined. Over the six year period from funding year 1975 through funding year 1980 as budgeted, NIE almost tripled the total dollars spent in postsecondary efforts and doubled the proportion of program funds allocated. The range of topics funded includes higher education, adult education, and other educational matters involving adults. Educational policy and organization efforts include the Post Secondary Organization and Management Studies Team; grants program of the team; research program on black and other minority colleges and universities, National Center for Higher Education Management Systems; postsecondary finance; and postsecondary desegregation. The teaching and learning postsecondary efforts focus on how adults learn, teaching adults, and assessing adult development and educational programs for adults. An annotated listing of funded projects is appended. Within the effort for dissemination and the improvement of practice there are four clearinghouses that are part of the ERIC system and an Experimental Program for Opportunities in Advanced Study and Research in Education (the Women and Minorities Program). (SW)

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Research on Post-Secondary Education at NIE

The National Institute of Education is in the initial stages of developing and expanding its programs sponsoring research about post-secondary education. This work will examine several of the major questions in higher education today, including issues of management and organization, of finance, and of educational equity. In addition, NIE programs examine questions of how better to understand the learning processes of students in higher education and adults in general, how best to teach these students, and how to assess development of basic and higher learning in adults.

What follows is a status report on this development. The ensuing pages will show in more detail the questions and issues which NIE is currently examining or considering, will indicate NIE's major interests from previous years, and will show the evolving organization of the Institute as that pertains to post-secondary research and development.

Over the six year period from FY 1975 through FY 1980 as budgeted, NIE is almost tripling the total dollars spent in post-secondary efforts and doubling the proportion of program funds allocated. This may be seen in the table below.

FY	Amount	%Program Budget
75	$ 8.3 million	14%
76	7.2	13%
77	10.3	18%
78	17.5	23%
79	19.5 (est.)	25%
80	23.0 (est.)	27%

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The range of topics funded includes higher education, adult education, and other educational matters involving adults. This last category includes, for example, work on the use of arithmetic in adults' daily lives, literacy requirements of various situations, and designing public documents to improve their clarity and readability. The criterion for inclusion of work is examination of the ultimate beneficiary as distinct from the immediate beneficiary. Thus, training for elementary school teachers would not be included because the ultimate beneficiaries would be elementary school students.

It is clear from the table that NIE's work in post-secondary education is not completely new. Some projects have been funded for several years. These include such major efforts as the University of Mid-America and the ERIC Clearinghouses on Higher Education and Junior Colleges. Some other projects are and have been partially oriented to post-secondary education. Such projects include the ERIC Clearinghouses on Teacher Education and on Educational Management, the Appalachian and Alaskan Satellite projects, the Institute for Research on Teaching, and Women's Research Grants. Various programs of the educational labs and centers which are funded by NIE are also on post-secondary topics. Chief among these is the work of the work of the National Center for Higher Education Management Systems.

Recently, NIE has added several important new efforts in this field. These include the Women and Minorities Program (to encourage participation in educational research by women and minorities as project directors and advanced students), work on literacy in community colleges, work on measurement of post-secondary student costs, examination of minority enrollment and

NE 011 204

other matters in colleges and universities involved in Adams v. Califano, and work in post-secondary organization and management.

NIE's organization has been evolving to promote greater coordination of the Institute's efforts in this field so that a more cohesive program will result. The most recent organizational development is the formation of a Post-Secondary Organization and Management Studies Team.

This team is a part of the Educational Policy and Organization Program which also sponsors work on post-secondary finance and on desegregation. NIE's Teaching and Learning Program sponsors work on a variety of issues having to do with adult learning and instruction of adults. The Institute's Dissemination and the Improvement of Practice program has charge of its work in dissemination and in women and minorities involvement in educational research.

In what follows, the three major program units' efforts in post-secondary education are presented and described in greater detail.

Educational Policy and Organization

Post Secondary Organization and Management Studies Team

The newly formed Post-Secondary Organization and Management Studies Team is focussing on three major topics.

The first topic is equity. Issues under this topic have to do with the effects of post-secondary education on the lives of students and faculty members from economically or socially disadvantaged backgrounds both immediately and in the long term. In addition, the roles of institutions, historically, currently, and as projected into the future, will be examined.

The second topic is diversity. The team will explore this continuing theme in higher education.

The third topic is adaptation to change. Institutions of higher education must cope with change. In what ways do they do so? How have such institutions responded to declining enrollments and increased costs? Are there models of institutional organization and adaptation? How do institutions plan for future developments?

FY 1979 is a planning year for two major activities; a grants program and a research program focussing on black and minority colleges and universities.

Grants Program

The Team's Grants Program will choose topics to be funded guided by discussions with a wide range of people and by the deliberations of a study group of external advisors. This group of experts from diverse backgrounds and various institutions and organizations will meet regularly to consider research issues and to help select research areas to be funded. This process will continue for several years with three rounds of grants competitions per year. The first will be announced in September 1979 with awards in March 1980.

Research Program on Black and Other Minority Colleges and Universities

One of the topics seen as clearly worthy of and in need of a research effort is that of the role of black and other minority colleges and universities. This topic will be studied either through focussed studies examining the issues raised above (equity, diversity, and adaptation to change) as they impinge on the special case of these colleges and universities or it will be studied as as aspect of the grants program.

National Center for Higher Education Management Systems

The Team is also responsible for the work of the National Center for Higher Education Management Systems (NCHEMS)in Boulder, Colorado. During FY 1979, NCHEMS is pursuing five programs designed to help improve planning and management in American post-secondary education. Four of these programs are carrying out various research and development projects in the areas of Planning and Financing, Organizational Performance, Information for Management, and Equity. The Center also has a program devoted to the dissemination of management concepts and products designed to support policymaking and administration and a program through which it carries out its roles as a national resource for post-secondary education.

The Planning and Financing program at NCHEMS is working to achieve a better understanding of how planning and financing activities are conducted, both in institutions and systems and at the State level. The program also seeks to develop ways for improving the integration of planning and financing in post-secondary education.

The Organizational Performance program undertaken research and development projects that address the need for management concepts and aids with which to assess institutional, program, and individual performance. Administrators are particularly concerned to improve performance as a means of slowing down the escalation of operational costs in colleges and universities in recent years. Four different R&D projects are under way in this program.

Eleven different projects are being pursued in the Information for Management program, ranging from an effort to develop a set of indicators for use by educational administrators to compilation of a taxonomy describing and classifying instructional programs at all levels of education. The focus of this program is on the conversion of data to information useful in decisionmaking.

NCHEMS established an Equity program in 1977 in recognition of the fact that equity issues have become a pervasive administrative problem affecting all areas of decisionmaking in postsecondary education. R&D efforts at present have two objectives--to identify the kinds of information needed by administrators who must address equity issues and problems, and to develop case studies of successful institutional efforts to respond to equity concerns.

Specific undertakings of the National Resource program at NCHEMS this year include (1) a series of national invitational conferences on major planning and management issues and (2) expansion and better coordination of the Center's scholarly activities, which include a Visiting Professionals program, and (3) a series of research workshops.

The NCHEMS Dissemination program this year is (1) revising the NCHEMS General Training Seminar, (2) widening distribution of NCHEMS publications and other management products, (3) establishing a new wide-distribution publication that provides highlight reports for decision-level administrators on current R&D results and trends in the planning and management field, and (4) expanding the Center's capacity to provide institutions and agencies with assistance in implementing planning and management concepts and products. A long-range plan for NCHEMS dissemination also is being developed.

Evaluation activities in FY 79 include a comprehensive analysis of the results of the product-impact study conducted for NCHEMS and NIE in 1978 by Arthur D. Little, Inc., and follow-up investigation of factors that influence institutional decisions regarding the use of NCHEMS concepts and products.

Post-Secondary Finance

The Institute's work on post-secondary finance is housed with the Educational Finance unit which is an aspect of its Educational Policy and Organizational Program. Several publications either have been released recently or are soon to be released in this area. These include an annotated bibliography on State and National level planning in higher education; a pamphlet, Financing Higher Education in the 50 States: Interstate Comparisons; the 1978 supplement to Higher Education Prices and Price Indexes; Finance Productivity and Management in Post-Secondary Education; Community Colleges and Budget Reductions; and Issues in Financing Community Colleges (prepared and partially supported by the Education Finance Center of the Education Commission of the States with support from the Ford Foundation and the Carnegie Corporation as well as NIE).

Future plans for work in this area include publishing an analysis of adults' motives for entering two and four years post-secondary institutions; a conference to disseminate information on the process of credentialling in New York State; a study of the national investment by the private sector in training and education for all kinds of workers, and a study of the financing of community colleges.

In addition, funding continues in support of the Worker Education and Training Policies Project being done by the National Manpower Institute. An initial survey has revealed, among other things, that only 2% of blue-collar workers with educational entitlements use them. Present work focuses on (1) intervention, on a pilot basis, in an attempt to increase this percentage; (2) case studies of three instances of exeptionally heavy usage of entitlements; and (3) identification of relevant policies which impact access to education for workers in public and private work settings.

The Institute for Research on Educational Finance and Governance at Stanford University is doing work to examine the economic and financial consequences of such trends as declining enrollment and increasing costs in post-secondary education. This work will include examinations of existing financing mechanisms and will explore the possibility of a comprehensive system of finance at the post-secondary level.

Finally, a research study on "Measurement of Post-Secondary Student Costs" is being planned. Phase One of this work will be to develop a design for the measurement of post-secondary costs including variation in costs due to location, school characteristics, and student characteristics. A recommended scope of survey and analysis work will be included. Phase Two, the actual survey and analysis, will occur after review and acceptance of the Phase One report.

Post-Secondary Desegregation

The Institute's work on post-secondary desegregation is carried out by the Desegregation Studies Staff within the Educational Policy and Organization Program. The major work examines seven topics:

1. Aspects of integration of historically black colleges and universities.

2. Examination of the effectiveness of models designed to increase the participation of minority students in higher education.

3. Identification of the continuing educational needs of blacks who work full-time so as to determine ways to meet those needs in desegregated higher education institutions in Virginia.

4. Identification of models for providing information about financial aid to minority students as applied in Virginia.

5. A case study of higher education desegregation in the tidewater area of Virginia focussing on the issue of duplication of programs and courses.

6. Projections of black enrollment in colleges and universities in the ten states involved in Adams v. Califano.

7. Development and identification of test and non-test predictors of success of minority students at the post-secondary level.

Teaching and Learning

The Teaching and Learning post-secondary efforts focus on three major topics: (1) How adults learn, (2) Teaching adults, and (3) Assessing adult development and educational programs for adults. An annotated listing of the specific projects funded may be found in the Appendix. Below is a list of topics being considered and questions within those topics.

How Adults Learn

Work in this area examines such matters as:

- Functional Literacy: How do literacy demands vary in different situations and in different societies? How is literacy acquired, modified and sustained depending on occupational circumstances?

- Writing Processes: What are the cognitive requirements of diverse types of writing in various settings?

- Use of Mathematics: How do adults use arithmetic in daily living? What factors influence women's achievement in mathematics?

- Cognitive Functioning: How do experts differ from novices in solving problems? How does higher education effect thinking and reasoning processes? How are problem solving strategies developed? What are the characteristics of such strategies which consistently give wrong answers?

- Generic and Transferrable Skills: What are they? What evidence exists that there are or are not such skills? How transferrable are they? How useful are they? How can they be developed? How can they be assessed?

- Career Paths: How does educational background relate to career path? How do educational institutions influence their students' career choices and outcomes?

- Continuing Education: What is the impact of returning to school on future occupations? What determines whether or not individuals return to school? What barriers are there to re-entry by women into private universities?

Teaching Adults

Work in this area examines such matters as:

- o Support Requirements: What do adults who were poorly prepared for college work need as support to stay in school and to learn? How can community colleges provide such support, especially in the basic skills? What is the best way to provide education for non-high school graduates after the birth of the first child?

- o Innovative Approaches to Higher Education: How can a regular college curriculm be delivered over a wide geographical area using television?

- o Preparation for Later Occupations: How useful are skills and abilities learned in college for career needs? What should colleges and universities teach about work? How should they go about this?

- o Teaching Styles: How do students react to various teaching styles? What styles are barriers to female students success?

- o Agenda for Teacher Education: What are the most important researchable topics which should be investigated in the realm of teacher education?

Assessing Adult Development and Educational Programs for Adults

Work in this area examines such matters as:

- o Assessment of Adult Competencies: What skills are needed by adults at various ages? What alternative means of assessing such skills are there? How can work adjustment of educationally disadvantaged youth best be assessed? How do employers, employees, and consumers of services perceive job competencies?

- o Credentialling: What competency-based exist or licensing requirements are used for various occupational training programs? What evidence is there about the validity and non-discriminatory nature of these requirements? How are they best assessed? What is the validity of competency-based credentials in specific occupations?

- o Evaluation of Adult Education Programs: How can the Personalized System of Instruction be adapted for adult usage in various settings? How well is the University of Middle America functioning? How effective is the Learning Stance Program? How well do GED and Adult Basic Education Programs relate to effective performance in the U.S. Military? How can the various agencies which participated in adult education best share information and practice financial efficiency?

Dissemination and Improvement of Practice

Within Dissemination and the Improvement of Practice there are two kinds of projects which bear on post-secondary education. First, there are four clearinghouses which are part of the ERIC system and which bear on higher education. Secondly, there is a relatively new program, begun in FY 978 entitled the Experimental Program for Opportunities in Advanced Study and Research in Education (the Women and Minorities Program).

ERIC Clearinghouse on Higher Education

This clearinghouse is run by George Washington University. Its concerns include literature on college and university students; college and unversity conditions, problems, programs, teaching, learning, curricula and instruction, faculty, instructional research, Federal programs, professional and graduate education (as well as undergraduate education), extension programs, planning, governance, finance, evaluation, management and interinstitutional agreements.

ERIC Clearinghouse on Junior Colleges

This clearinghouse is run by the University of California. Its concerns include the development, administration, and evaluation of public and private junior colleges, their students, staffs, curricula, programs, libraries, and community services.

ERIC Clearinghouse on Teacher Education

This clearinghouse is run by the American Association of Colleges for Teacher Education. Its concerns include preservice and preparation and training of teachers.

ERIC Clearinghouse on Educational Managment

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include educational management, organization, and administration.

Experimental Program for Opportunities in Advanced Study and Research in Education.

This program funded 31 projects in FY 1978 and is funding 50 projects in FY 1979. These projects are designed to enhance opportunities and to encourage participation in educational research by women and minorities as project directors and advanced students.

Peirce Hammond
March 14, 1979

APPENDIX

The Teaching and Learning post-secondary efforts focus with three major topics: (1) How adults learn, (2) teaching adults, and (3) assessing adult development and educational programs for adults. An annotated list of projects planned or funded in these three categories follows.

How Adults Learn

Functional Literacy. This work is being done at the Northwest Regional Laboratory. The project is examining functional literacy in youth and adults and the literacy requirements of various settings.

Conference on Adult Literacy Development in Economically Development Societies. This work will be done by a party to be selected. The conference will identify basic assumptions about literacy requirements under various circumstances in economically developed societies.

Adult Learning in Work and Non-Work Settings. This work will be done by a party to be selected. It will examine adult learning in both work and non-work settings. It will focus on the acquisition and use of literacy by adults and on the circumstances which sustain literacy skills in adults.

A Cognitive Model of the Writing Process in Adults. This work is being done at the Research Foundation of SUNY, Albany. A cognitive model of writing processes in adults will be developed which will include the cognitive skills and processes required and used in diverse kinds of writing in various settings.

Higher Education and the Cognitive Development of Individuals. This work is being done at the University of Minnesota. It will examine the development of thinking and reasoning processes associated with participation in higher education.

The Nature and Functions of Writing in Non-Academic Settings. This work is being done at SUNY, Albany and the University of Tennessee. It will examine the nature and functions of writing in various non-academic settings.

Identification and Development of Generic Skills. This work is being done at Bowling Green State University. The project will attempt to identify generic skills and will present evidence both for and against the existence of such skills.

Content and Methods of Career Preparation: Transferable Skills. This work is being done at the National Center for Research on Vocational Education. It is a national study of transferable skills: the settings in which they develop and wherein they are most useful; processes for their development and for their assessment.

Development of the Learning Stance. This work is being done at Syracuse

Research Corporation. It is concerned with development of the potential for self-directed learning in adults and with assessment of that potential.

Entry Into Careers. This work is being done at the Boystown Center for Research and Development. It is examining the career paths of individuals with varying secondary and post-secondary education in order to develop information for students about longer-term potential of career choices.

School Processes and Career Development Program. This work is being done at the Center for Social Organization of Schools. It is multi-disciplined work on how educational institutions influence their students' career choices including the students' educational plans and attainments and their occupational plans, achievements, and satisfaction.

Professional Education and Career Development in Social Work and Engineering. This work is being done at Case Western Reserve. The project is examining professional education and career development in the fields of social work and engineering.

Determinants and Efforts of Going Back to School. This work is being done at Johns Hopkins University. It is a study of the determinants and occupational effects of returning to school.

Adaptation to Occapational Changes at Midlife: A Predictive, Longitudinal Study. This work is being done at the Laboratory of Social Psychiatry at Harvard University. It examines adaptation to occupational changes at midlife, including the impact of adolescent career preparation in later coping with occupational change.

Schooling, training, and patterns of occupational changes among career civil servants, 1963-1977. This work is being done at Sweet Briar College. It examines schooling, training, and patterns of occupational changes among career civil servants from 1963-1977.

Conference of Educational and Occupational Needs of White, Ethnic Women. This work is being done at the National Institute for Community Development. It will identify the educational and occupational needs of white, ethnic women.

The Mature Practice of Arithmetic Problem Solving in the Daily Lives of Americans. This work is being done at the University of California at Irvine. It examines arithmetic problem solving in the daily lives of American adults.

Nice Girls Don't Study Mathematics. This work is being done at the Institute for Research on Social Problems in Boulder, Colorado. It is examining socio-cultural factors which influence women's achievement in mathematics by comparing women with recent doctorates in mathematics and women with recent doctorates in psychology and English in their mathematics abilities.

Cognitive Processes and the Structure of Knowledge in Physics and Algebra This work is being done at Carnegie-Mellon University and is funded jointly with NSF. The work includes development of models of expert problem-solving in elementary physics. It also includes comparison of performance on such problems by experts and novices. Thirdly, it includes an analysis of learning mechanisms which transform the novice into an expert.

Algebraic Problem Solving: An Information Processing Study. This work is being done at the University of Texas and is funded jointly with NSF. It examines strategies and methods used by college students to solve simple algebraic equations.

The Role of Preconceptions and Representational Transformations in Understanding Science and Math. This work is being done at the University of Massachusetts and is funded jointly with NSF. It is a study of students' preconceptions and misconceptions of physical phenomenon in college instruction and will identify difficulties which students have in translating between different representational systems as they apply to physical situations.

Underlying Formalized Heuristic Structures in Predictability Theory and Applications to Teaching. This work is being done at the University of California at Irvine and is funded jointly with NSF. It will identify strategies used by college students to consider and to make judgements of probalistic problems and will focus on strategies which consistently lead to wrong answers. The study will include the development of strategies when they are used, and ways to alter them.

Is There A Way Out? This work is being done at the Unitarian Universalist Service Center. It will survey the educational and occupational needs of women in San Francisco County Jail.

Teaching Adults

Community College Functional Literacy Study. This work is being done at the University of Texas, Austin and Arizona State University. It examines underpreparation for college level work among Hispanic Americans. It will identify support services needed both to stay in school and to learn. It will examine current practices in community colleges and their effectiveness.

Research Agenda on Teaching. This work is being done at the Research and Development Center for Teacher Education.

University of Mid-America. This is a multi-State delivery system of college curricula through television.

The Representation and Learning of Knowledge and Structure of Experimental Psychology. This work is being done at Illinois State University and is funded jointly with NSF. It examines representation of component ideas in textbooks by comparing various tests, instructors and resultant student knowledge of experimental psychology.

Careering After College. This work is being done at Alverno College. It examines the usefulness and validity of abilities learned in college for later career success.

Work Values. This work is being done at the Far West Education Research Laboratory. It is to identify, analyze, and assist educational efforts to teach about work.

Sex-Typed Teaching Styles Among University Professors and Student Reactions. This work is being done at Ohio State University. It examines sex-typed teaching styles of university professors, student reactions to them, and barriers to female students' academic success.

An Experiment in Teacher Development. This work is being done at M.I.T. It is an experiment in teacher development involving work with elementary school teachers on observation, diagnosis, and intervention in on-line evaluation of educational programs.

The Changing Circumstances of Life and Work in America. This work is being done at the Council on Learning in New Rochelle, N.Y. It examines the changing circumstances of life and work in the United States and their impact on undergraduate curricula.

Education of Non-High School Graduates After the Birth of a First Child. This work is being done at the Center for Population and Family Health, Columbia University. It investigates education for non-high school graduates after the birth of their first child.

Barriers to Educational Opportunities for Re-Entry of Women in Private Universities. This work is being done at the Program on Women at Northwestern University. It examines barriers to educational opportunities for re-entry of women into private universities.

Assessing Adult Development and Educational Programs for Adults

Clearinghouse on Applied Performance Testing. This work is being done at the Northwest Regional Educational Laboratory. It examines applied performance testing. It will develop alternative definitions of skills needed for different life competencies at various ages and alternative assessment means.

Evaluation Study of the Assessment of Occupational Compentencies. This work is being done at McBer Associates. This work synthesizes research on occupational competency assessment. It will examine evidence pertaining to the validity and the non-discriminatory nature of competency-based exit or licensing requirements and ways to assess such competencies.

Validation Criteria for Job Adjustment of Disadvantaged Youth. This work is being done at Coppin State College. It examines the question of validation criteria for job adjustments by educationally disadvantaged youth. Poor adjustment is given as a major reason for low hiring, poor retention and poor promotion records for these young people. The work will develop alternative assessment procedures for work adjustment.

Career Development Potential and Validity of a Competency-Based Credential for Child Care Staff. This work is being done at Child Development Associates. It examines the career development potential and validity of competency-based credentials of child care workers.

A Comparative Analysis of Job Competency Performance. This work is being done at Syracuse Research Corporation. It is a comparative analysis of job competency perceptions of employers, employees, and consumers of service geared to the interest of community colleges in training human service personnel.

Evaluation of PSI as an Adult Learning Device. This work is being done by a party to be announced. PSI has a ten year history of effectiveness in colleges and universities. This is an evaluation of its use with adults in other settings. In addition the University of Mid-America and the Learning Stance will be evaluated.

Evaluation of Relationships between Pre-Service Educational Experiences and Credentials, and In-Service Performance. This work is being jointly sponsored by NIE and the Department of Defense. It examines various levels of educational effectiveness of GED and Adult Basic Education Programs as they relate to effective performance in the U.S. Military.

Interagency Panel on Adult Education. This work, jointly sponsored with the Assistant Secretary for Planning and Evaluation is to develop mechanisms for sharing information and maximizing financial effeciency.